

Chapter 7 Summary

Section Objectives

How does it apply to you?

Section 1

Recognize and describe a linear pattern.



A sequence of numbers has a linear pattern when each successive number increases (or decreases) by the same amount. *(See Examples 1 and 2.)*

Use a linear pattern to predict a future event.



You can extend a linear pattern to predict a value. *(See Example 3.)*

Recognize a proportional pattern.



A pattern with two variables is proportional when one of the variables is a constant multiple of the other variable. *(See Examples 5 and 6.)*

Section 2

Recognize and describe an exponential pattern.



A sequence of numbers has an exponential pattern when each successive number increases (or decreases) by the same percent. *(See Examples 1 and 2.)*

Use an exponential pattern to predict a future event.



You can extend an exponential pattern to predict a value. *(See Examples 3 and 4.)*

Compare exponential and logistic growth.



Logistic growth accounts for the physical boundaries that limit exponential growth in nature. *(See Examples 5 and 6.)*

Section 3

Recognize and describe a quadratic pattern.



A sequence of numbers has a quadratic pattern when its sequence of second differences is constant. *(See Examples 1 and 2.)*

Use a quadratic pattern to predict a future event.



You can extend a quadratic pattern to predict a value. *(See Examples 3 and 4.)*

Compare linear, quadratic, and exponential growth.



You can determine whether a sequence follows a linear, exponential, or quadratic pattern, or none of these patterns. *(See Examples 5 and 6.)*

Section 4

Recognize and describe the Fibonacci pattern.



In the Fibonacci sequence of numbers, each number is the sum of the 2 previous numbers, starting with 0 and 1. *(See Examples 1 and 2.)*

Analyze geometric Fibonacci patterns.



You can identify and describe the Fibonacci sequence in art and nature. *(See Examples 3 and 4.)*

Recognize and describe other patterns in mathematics.



There are many other types of mathematical patterns. You can analyze them to better understand the world around you. *(See Examples 5 and 6.)*